19970824.ba v01_n637.bam.970824

>From ???@??? Sun Aug 24 10:47:21 1997
Message-Id: <199708240502.AAA06678@sco.theporch.com>
Date: Sun, 24 Aug 1997 00:02:44 CDT
Subject: BOATANCHORS digest 1637

BOATANCHORS Digest 1637

Topics covered in this issue include:

1) FS: Millen GDO & Ant. Bridge
   by bocks@erols.com
2) Making a scope probe for Tek 511A
   by Ben Bradley <bradley@norcross.mcs.slb.com>
3) F/S Clegg 22er
   by MNHopkins@aol.com
4) BA's on consignment
   by hikrbikr@erols.com

Date: Sat, 23 Aug 1997 22:18:55 -0700
From: bocks@erols.com
To: boatanchors@theporch.com
Subject: FS: Millen GDO & Ant. Bridge
Message-ID: <33FFC43F.4AF@erols.com>

Following items are for sale as a *SET* only:

Millen 90651 Grid Dip Oscillator, s/n 8163, good clean condx, coil plexiglas intact and not broken, fully functional. Includes:
  standard coil set w/metal coil rack
  3 LF coils (220-350 kc, 500-1050 kc, 925-2000 kc)
  repro manual

Millen 90672 Antenna Bridge s/n 254, good clean condx, includes:
   3 pick-up coils
   ORIGINAL manual plus repro

Complete Millen GDO & Bridge setup as described above, $110 ppd US.

73,

Paul, K4MSG

Date: Sat, 23 Aug 1997 22:41:45 -0400
From: Ben Bradley <bradley@norcross.mcs.slb.com>
To: boatanchors@theporch.com
Subject: Making a scope probe for Tek 511A
Message-ID: <3.0.32.19970823224144.009f7370@norcross.mcs.slb.com>

"f. townsend" <ftownsen@access.digex.net> wrote about Tek 511A probe:

>I've had rather astonishing success in getting my 511A back to working
>{snip}
>
>My current problem is lack of a probe, and how to either obtain one at
>reasonable cost, or fabricate a replacement. I am also unclear from the
>photo in the manual whether the original probe had a ground connector,
>or whether one of the separate ground binding posts were used. I put
>the manual photo of the probe and the pertinent part of the schematic at
>
>http://www.access.digex.net/~ftownsen/tek.html

I'm looking at it - a nice scan. I can clearly see on the schematic the probe which is shown as a 9 meg resistor in parallel with a 5-20 pF, or rather, uuF trimmer cap.
The picture also shows a 'binding post adapter' that could be used instead of a probe - it appears you can plug this adapter into the scope, and connect a wire to this binding post to use a 1-to-1 'probe'. In this case a second wire would go to a ground binding post. This should only be used with low-impedance, low-frequency (audio and below), low-voltage (maybe 100 or 200 volts max) circuits.

>Advice, as always, is much appreciated.

For really good performance from an oscilloscope, use a 10-to-1 probe.

>I also can't remember if including URLs in postings is a breach of list
>etiquette. If so, I apologize in advance.
>
>Frank

URL's are AOK. (alright, I won't talk like that anymore...)

John Shriver <jas@shiva.com> wrote:

>Well, any Tek 10X probe with a UHF connector should probably work fine
>on your 511A. I presume the 511A has an input impedance of 1 megohm,
>47 pF.

>In the probe, R77 is 9 megohms, and C30 around 470 pF, right?

Nope, you did your math backwards - C30 (the capacitor in parallel with the 9 megohm R77) should be 1/10th the scope input capacitance, or approximately 4.7 pF. On the probes I've used these are usually variable trimmer caps in a little box at the connector end of the probe cable.

How I make scope probes:

Working scope probes are often harder to find that oscilloscopes themselves. I've made my own crude, but very operational, probes using common parts. A short piece of coax (of 'good quality', but I've used whatever's at hand with good results) of maybe three feet (or only about as long as needed - longer will increase cable capacitance and resultant loading capacitance to the circuit being probed) is connected to the appropriate connector for the scope.

At the other end, the shield goes to a ground clip. The inner conductor goes to the resistor and trimmer cap in parallel. Since 9 megohms is an unusually high value and is not always in every junk box, I've used several 1 to 4.7 megohm resistors in series. If you want to make accurate voltage measurements with the scope, measure the total resistance, and mix-and-match resistors so that the total is close to 9 megohms.

The trimmer cap can be found in many places, including some of that PC debris that you weren't able to give away at the last four swapmeets you had tables at. I recall getting one off an old XT video board to make a scope probe with. (yes, sand-state is off-topic, but I consider recycling for this sort of purpose to be poetic justice). The only important parameter is that the adjustment range include 1/10th the scope input and coax capacitance.

When in a hurry I've just soldered the resistor/trimmer combo to the inner conductor of the coax, and used the other resistor lead as the probe tip. Inventive mechanical design (not my forte) will lead to a 'real' homemade probe that will last longer.

Adjustment of the trimmer is made so that it compensates for the scope input capacitance in parallel with the coax capacitance. Just as the 9 meg restistor and 1 meg scope input make a 10 to 1 resistive divider, the trimmer capacitor and scope input-coax capacitance need to make a 10 to 1 capacitive divider.

Fortunately, measuring a low-frequency square wave is all that's needed for adjustment, amd most of the old tube-type Tek scopes have square-wave calibration outputs. Adjust the trimmer cap so the wave top and bottom are flat and not curved.

For measurement, the ground clip connected to the shield is used as the one and only ground, and is clipped to ground of the probed circuit electrically and physically near the circuit node to be probed.

>Oh, yes, there would be a ground clip from the probe. As short as
>possible.

I wholeheartedly agree. Using a scope probe is almost an art. I've read some about it by (and got some of the above ideas from reading) Bob Pease of the 'Pease Porridge' column in Electronic Design (at least some of these columns are on the web somewhere).

Ben Bradley, Design Engineer
Schlumberger MCS
snail: 3155-B Northwoods Parkway
Norcross, GA 30071-1576 USA
email: bradley@norcross.mcs.slb.com
voice: 770-368-3444 ext. 3191
fax: 770-840-8614

Date: Sat, 23 Aug 1997 23:10:37 -0400 (EDT)
From: MNHopkins@aol.com
To: Boatanchors@theporch.com
Subject: F/S Clegg 22er
Message-ID: <970823231036_-335024459@emout10.mail.aol.com>

Clegg 22er AM Transceiver is the one with the double conversion reciever. They are used even today by Dallas area microwave club members for QSOs.

This one looks OK and works FB, $50

contact Kbritain@johnstontech.com

note: this is a relay posting for Kent Britain, WA5VJB, the antenna expert and Dayton speaker. His picture is on cover November, 1993 CQ Magazine.

Date: Sun, 24 Aug 1997 00:12:44 +0100
From: hikrbikr@erols.com
To: Boatanchors <boatanchors@theporch.com>
Subject: BA's on consignment
Message-ID: <33FF6E6C.3BCC@erols.com>

Ahoy! Today at EEB, the ham radio store here in Vienna, Virginia, just outside the Capitol Beltway, I bought a consignment Galaxy V 1960s vintage hybrid transceiver, a stunningly heavy WRL PSA-300 power supply console and various wires and boxes whose function I haven't determined. Other boatanchors on consignment are...

-- Swan 270 Cygnet SSB transceiver with VX-2 VOX unit, built-in PS, and brand X microphone; supposedly working, with manual. Looks nice. Listed price $95.

-- Hallicrafters S-120 SWL receiver, with manual, supposedly working and looks good, $45.

-- two HP 350D attenuator sets, $20 each.

FWIW, these BAs have been on the consignment shelf for weeks and the owner(s) might be amenable to negotiation via EEB's friendly staff of mostly hams.

If you're interested in these BAs, call EEB, phone 703-938-3350, fax 703-938-6911. I have absolutely no connection with EEB other than shopping there frequently and supporting local merchants.

73, Mike Steussy, AE4R

End of BOATANCHORS Digest 1637
****